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FMT version 2.00 : Written by Clair Alan Hardesty : 07-FEB-1993

Fast floppy disk formatter for AT compatible computers

Features:

1: Format verification is an option, allowing fast formatting on known good media by not specifying it.

2: Generates DOS version 4.0 style volume serial numbers.

3: The system files may be copied, producing a bootable floppy.

4: The "insert disk" prompt may be bypassed, easing use in batch files and speeding formatting of a single floppy already in the drive.  
NOTE: Use with caution, as formatting begins immediately!

5: Recursive formatting is optional.

6: All program output is to STDOUT, allowing redirection.

7: Extensively commented source code is included.

8: The boot sector data is coded entirely in assembly language, this is a feature that I have not seen in any other floppy format program. I hope this provides others with an increased understanding of DOS and of the possibilities of assembly language programming.

9: A plethora of error messages and exit codes provide detailed program fault information.

10: Program progress display is informative without being verbose.

11: Small code size: approximately 7 Kb.

12: The floppy boot sector contains the drive parameter table, this should help in making nonstandard formats bootable, (something I may attempt in the next major revision).

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The source code for FMT has been included for several major reasons:

- 1: To provide the user with peace of mind, (you are encouraged to examine the source and compile it yourself), as any program that does low level disk I/O is a potential nemesis.
- 2: To share what I have learned from writing it with others.
- 3: To encourage others to do likewise.
- 4: To show off (not too boisterously, but I am proud of my work).

Users are permitted to use any portion of the source code in any program written for distribution, commercial or otherwise, including distribution of the source code, providing credit is given where credit is due.

You are encouraged to distribute the original files, provided they are unaltered and distributed as a set. The files are:

- 1: FMT.ASM - the source code
- 2: FMT.COM - the compiled program
- 3: FMT.DOC - this file in Word for Windows 2.0 format
- 4: FMT.TXT - this file in standard ASCII format

I may be contacted at:

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Syntax: FMT d: size [V] [S] [D] [N|R] [U] [C]

where: d = drive (A or B), size = floppy size in Kb,  
the optional V enables format verification, the optional S  
copies the system files, the optional D enables the enhanced  
DOS compatibility mode, the optional N bypasses the prompt,  
the optional R enables recursive formatting with prompting,  
the optional C enables the 720K 1 sector per cluster option,  
and the optional U creates a UNIX disk (F6h fills entire disk)  
supported sizes are:

360 for a 360 Kb floppy in a 360 Kb or 1.2 Mb drive  
720 for a 720 Kb floppy in a 720 Kb, 1.44 Mb, or 2.88 Mb drive  
1200 for a 1.2 Mb floppy in a 1.2 Mb drive  
1440 for a 1.44 Mb floppy in a 1.44 Mb or 2.88 Mb drive  
2880 for a 2.88 Mb floppy in a 2.88 Mb drive

notes:

1:When the N option (bypass prompt) is used, formatting begins  
immediately (be sure the proper floppy is in the drive). Only the  
break key will abort the format (escape is disabled), this allows  
the user to type ahead of the format command.

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Exit codes:

0 = successful format  
1 = failure during format, verify, or write  
2 = disk size / drive type combination is not supported  
3 = requested drive does not exist  
4 = invalid or null command line  
5 = system files not found or error writing system files  
6 = computer is not AT compatible  
7 = insufficient memory for file copy buffer (system transfer)  
8 = insufficient stack space for program  
9 = program aborted by user (Control-C, Break, or Escape)  
10 = unknown drive type (CMOS RAM says floppy type is greater than 5)  
11 = memory allocation error (while attempting to reduce memory)  
12 = both N and R options specified (only one allowed)  
13 = 720K option specified, but not 720K format

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In order to use the system transfer option, the following files must be in the root directory of the default drive:

- 1: IBMBIO.COM or IO.SYS (normally a hidden file)
- 2: IBMDOS.COM or MSDOS.SYS (normally a hidden file)
- 3: COMMAND.COM

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To compile with Borland Turbo Assembler version 1.0 or greater:

```
tasm /t fmt
tlink /t /x fmt
or
tasm /t /zi fmt
tlink /v /x fmt
tdstrip -c -s fmt
```

for use with Turbo Debugger

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To compile with Microsoft Macro Assembler version 5.0 or greater:

```
masm /t fmt;
link fmt;
exe2bin fmt fmt.com
del fmt.exe
```

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Revision history:

Version 1.00 : 23-JAN-1990

Initial public release

Version 1.10 : 03-FEB-1990

Fixed MASM bugs

Added MASM version 5.0 compatibility

Improved compatibility for drive type determination

Added a break handler and "user abort" message

Added some new exit codes

Improved the boot record code

Improved computer compatibility (some Wyse computers have problems)

Version 1.20 : 10-JUL-1990

Fixed serial number generation to match IBM format exactly

Fixed system file transfer to work with IBM or Microsoft DOS

Modified the user abort code to accept the ESCAPE, CONTROL-C, or

BREAK keys, and fixed some bugs in the user abort code

Added recursive formatting capability

Version 1.30 : 22-DEC-1990

Comment clarifications

Minor code improvements

Version 1.40 : 21-JUN-1991

Improved compatibility for some machines (mainly PS/2s)

Version 1.50 : 28-FEB-1992

Upgraded to MS-DOS 5.0 with support for 2.88 Mb floppy drives

Fixed a bug in the reset subroutine retry code

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Version 1.60 : 09-MAR-1992

Fixed a bug in the format subroutine that caused some machines (COMPAQs) to fail verification. Thanks to Ralph Riggs for pointing out this bug and assisting in it's eradication.

Version 1.70 : 01-NOV-1992

Fixed a bug in the stack check code.  
Added the UNIX format option.  
Removed the copyright - released to the public domain

Version 2.00 : 07-FEB-1993

added 720 Kb floppy 1 sector per cluster option

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The current version (2.00) was compiled with Borland Turbo Assembler version 3.1 and linked with Borland Turbo Linker version 5.22b

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